



United States  
Department of  
Agriculture

Forest Service

Pacific  
Northwest  
Region

May 2007



# Forest Health Protection International Activities

## Accomplishment Report for Fiscal Year 2006

Prepared by the FHP International Activities Team



Collecting beetles during pheromone study in pine plantations in Jalisco, Mexico

**USDA FOREST SERVICE  
STATE AND PRIVATE FORESTRY  
FOREST HEALTH PROTECTION  
INTERNATIONAL ACTIVITIES - FISCAL YEAR 2006**

***Summary***

This report is a consolidation of all the Forest Health Protection (FHP) international activities in FY 2006. Funding for these activities comes from a variety of sources including FHP, USDA Forest Service International Programs (IP), USDA Animal and Plant Health Inspection Service (APHIS), US Agency for International Development (USAID), United Nations Food and Agriculture Organization (UN/FAO), and support from hosting countries.

During FY 2006, FHP specialists were involved in approximately 58 activities with 18 countries or geographic regions. These activities included: providing technical assistance and training, cooperating in projects, pest risk assessments, giving presentations, and participating in international meetings.

There are four FHP International Activity Goals. These goals are:

- Goal 1.** US forests are protected from exotic pests.
- Goal 2.** North American countries have strong forest pest management programs.
- Goal 3.** Biological control options are in place to protect US forests from exotic pests.
- Goal 4.** Forest health technology and expertise are shared worldwide.

Emphasis Areas (*EA's*) that address these goals for 2006 were:

1. Continue to coordinate with, develop relationships, and provide assistance to forest pest managers in Mexico, especially in areas of common interest that will strengthen our mutual forest health protection programs;
2. In conjunction with IP, continue to develop relations and cooperation in the Asian/Pacific Rim countries;
3. Facilitate sharing FHP technologies with other countries, and
4. Continue to emphasize professional development and expertise for FHP staff in the international arena.

Activities which directly relate to a particular EA are identified in the attached Table by the description of the activity (*EA1* , *EA2*, etc.).

***2006 Highlights***

**Asia-Pacific Forestry Commission:** FHP representatives attended the “Early Warning Systems for Invasive Species” workshop sponsored by the Asia-Pacific Forestry Commission in Kerala, India. They gave 6 presentations that included the early warning and detection of invasive species, assessing pathways for the introduction of invasive species, identifying ecosystems at risk and invasive species hazard mapping, developing invasive species databases, and development of treatment options for invasive species. There were 48 attendees from 13 countries in the Asia-Pacific Region.

**China:** FHP continued to provide support and funding for equipment and staffing in the Biological Control Laboratory in Beijing, where an accelerated search for natural enemies of hemlock woolly adelgid in China is being conducted. Two FHP entomologists continue participate on a team providing input and review on a book of Forest Insects of China. Cooperation on other publications includes a publication of “Invasive Plants of Asian Origin Established in the U.S and Their Natural Enemies Vol. 2”, cooperation on the “Forest Diseases of China” book, and cooperation and publication of “Parasites and Predators of Forest Pests in China”. In addition, cooperative projects continued for pathogenic and insect biological controls of invasive plants such as mile-a-minute weed, Tree of Heaven, kudzu, and Japanese knotweed. Cooperation also continues on the life history and biological control of emerald ash borer.

**Mexico:** Primary activities this year included continued collaborative work between Comision Nacional Forestal (CONAFOR) and FHP on: 1) assessing pheromone preference and developing recommendations on pine management for *Pseudips mexicanus* and other bark beetle species in southern Jalisco; 2) in conjunction with International Programs, provide assistance on identification and impacts of dwarf mistle toes and other forest pathogens, and 3) cooperate with the Southern Research Station on a project involving southern pine beetle and a new species of bark beetle (*Dendroctonus*) in Chiapas.

**Russia and Japan:** Cooperation and trapping for Asian gypsy moth and other potentially invasive Lymantriids continued in Russia. Similar trapping was coordinated and further refined in Japan. Steve Munson, FHP Field Representative and entomologist in Ogden, UT received the Chief’s Award for International Activities for his efforts and continued participation in this very important port trapping program

FHP is involved in support, development, and participation of three international invasive species organizations and networks – the Insect and Disease Working Group of the North American Forestry Commission (NAFC), the Asia-Pacific Forest Invasive Species Network (APFISN), and the Forest Invasive Species Network of Africa (FISNA).

### ***Primary Activities***

The attached table summarizes the primary FHP international activities in FY 2006 by geographic region and country. Source of funding and participation are listed in order to show the cooperation and participation that goes to support FHP international activities.

Additional information can be obtained either through the IAT or the regional FHP international activity coordinators.

**IAT** – Dayle Bennett, Iral Ragenovich, Noel Schneeberger, Denny Ward, and Larry Yarger

### **Regional FHP IAT Coordinators**

WO and FHTET – Larry Yarger	R3 – Debra Allen-Reid	R8 – Denny Ward
R1 and R4 – Dayle Bennett	R5 – Phil Cannon	R10 – Cynthia Snyder
R2 – Tom Eager	R6 – Iral Ragenovich	NA – Noel Schneeberger

## FY 2006 FHP International Activities

COUNTRY	ACTIVITIES	TECHNICAL SPECIALISTS	SOURCE OF FUNDS
AUSTRALIA	Completion and publication of “Pest Risk Assessment of the Importation into the United States of unprocessed <i>Pinus</i> Logs and Chips from Australia” FHTET 2006-06	WIPRAMET (Gregg DeNitto, John Kliejunas, Andy Eglitis, Dennis Haugen, Jessie Micales, Mike Haverty, Hal Burdsall)	FHP, APHIS
AFRICA	Provide assistance for 3 crewleaders for 5-year re-measure of forest health monitoring plots in Kenya and Tanzania – Taita Hills Forest Health Project (EA3)	Hertel (WCU) O’Connell (NRS) Tillman (NRS)	Critical Ecosystem Partnership Fund, IAT,NRS, West Chester University
	Continue to provide ongoing assistance in initiating establishment of a new website for the Biotechnology Center for the Kenya Forest Department (EA3)	Ward (R8)	FHP
	Provide travel assistance to FINSA representative to attend IUFRO Working Party on Invasive Species and International Trade in Poland.	Mangold (WO)	FHP
	Provide assistance to Bio Technology Centre and check mangrove plots in Kenya (EA3)	Ward (R8)	FHP
CANADA	Continue cooperative agreement with Canadian Forest Service for maintaining the Douglas-fir tussock moth Goose Lake Colony and testing DFTM for virus susceptibility, and virus and parasites in US populations	Reardon (FHTET) Ragenovich (R6)	FHP

<b>CANADA (continued)</b>	Give 3 presentations on 1) status of forest pests in the US, 2) an overview of the Forest Health Technology Enterprise Team and 3) The Exotic Forest Website (ExFor) and the enhancing of functionality of the website to both Federal and Provincial forestry managers.	Downing (FHTET)	FHP
	Attend International SERG-I meeting in Calgary, moderate panels on aerial applications of pheromones and viruses, and give presentation on use of aerially applied viruses for defoliator management in the U.S.	Thisle (FHTET) Ragenovich (R6) A.Onken (NA) Ghent (R8)	FHP
	Attend joint meeting of the Canadian and American Phytopathology Society meetings and participate in panel on the long term patterns of spread and intensification of forest pathogens and moderate a panel. (EA4)	McKenzie (NA) Trummer (R10) Lundquist (R10)	FHP IAT
	Give a presentation on <i>Dothistroma</i> needle blight of limber pine at the Annual AB/BC Intermountain Forest Health Workshop Radium Hot Springs, BC	Jackson (R1)	FHP
	Through the whitebark pine program, coordinate and cooperate with Canadian counterparts regarding the extent of rust in whitebark pine in BC and Alberta	Schwandt (WO)	FHP
	Jointly co-author a major chapter on rust and whitebark pines in the West.	Schwandt (WO) Lockman (R1) Muir (BCMF retired)	FHP
	Provide assistance with GPS/GIS logistics on a jack pine budworm spray project (250,000 acres and 14 aircraft) Fort Francis, Ontario. (EA3)	Ghent (R8)	FHP

CHINA	Participate in team on development of book on Forest Insects of China, provide input, review drafts, etc.	Clarke (R8) Bohne (R5)	FHP
	Development of a semiochemically based monitoring and control program for <i>Hylobitelus xiaoi</i> and <i>Tomicus piniperda</i> (EA2; EA4)	Clarke(R8)	IAT, FHP
	Continue support of a biological control lab in Beijing and co-sponsor a biocontrol of forest pests workshop in Beijing	Reardon (FHTET) Lu (Beijing)	FHP, IP Beijing Forestry
	Continuation coordination with China on biocontrol projects (EA2, EA3)	Reardon (FHTET) Wu (FHTET)	FHP
	<ul style="list-style-type: none"> <li>• Host range testing for selective pathogenic fungi and herbivores of mile-a-minute weed – PhD dissertation published “Fungal associates of mile-a-minute and the potential as biological control agents”</li> <li>• Biological control of Tree of heaven using pathogenic fungi and weevils</li> <li>• Biological control of Kudzu using an imitation rust and herbivores</li> <li>• Cooperate on publication of “Invasive Plants of Asian Origin established in the U.S and their natural enemies vol. 2” – published Dec. 2005 and a 2<sup>nd</sup> ed. published March 2006</li> <li>• Continue cooperation on “Forest Diseases of China” book</li> <li>• Continue cooperation and publication of “Parasites and Predators of Forest Pests in China”- in typeset, to be published soon</li> <li>• Continue cooperation on Emerald Ash borer life history and biological control studies – manuscript in preparation</li> <li>• Cooperate on biological control of hemlock woolly adelgid</li> <li>• Cooperate on biological control of Japanese knotweed</li> </ul>		

<b>DOMINICAN REPUBLIC</b>	Attend symposium on conservation and agriculture and present project work that FHP is performing with invasive species and the impact of such species to conservation in North America.	Puckett (R8)	FHP
	Discuss taxonomic description of lepidopteran species occurring in North and Central America with university scientists.	Puckett (R8)	FHP
<b>ENGLAND and SWITZERLAND</b>	<p>Coordinate in Europe on biological control projects:</p> <ul style="list-style-type: none"> <li>• Locate pathogens and parasitoids of beech scale</li> <li>• Participate in an effort to test host range of weevils for control of garlic mustard</li> </ul>	Reardon (FHTET)	FHP
<b>INDIA</b>	Attend Asia-Pacific Invasive Species Network (APISN) meeting of Asia-Pacific Forestry Commission (APFC) Daradun (EA2)	Mangold (WO)	FHP
	Participate in “Early Warning Systems for Forest Invasive Species” workshop in Kerala. Gave 6 presentations detecting, assessing and identifying risk and treatment options for invasive forest pests. (EA2, EA3)	Sapio (FHTET) Tkacz (WO)	FHP
<b>ISRAEL</b>	Provide FS oversight on IP sponsored project for management of eucalyptus gall wasps. (EA3)	Mangold (WO) Bobbe (RSAC)	IP, FHP
<b>ITALY</b>	Attend annual meeting of the International Forestry Research for Quarantine Regulations in Rome to discuss alternatives to methyl bromide	Britton (WO)	FHP

<b>JAPAN</b>	<p>Continue coordination with Japan on Asian Gypsy Moth port trapping program. (EA2)</p> <p>Conduct collections of white pine blister rust and <i>Armillaria</i> source material.</p> <p>Coordinate with Japan on biological control projects: (EA2)</p> <ul style="list-style-type: none"> <li>• Search for natural enemies of hemlock woolly adelgid</li> <li>• Search for natural enemies of mile-a-minute weed</li> <li>• Search for natural enemies of Japanese knotweed</li> </ul>	<p>Munson (R4) Leonard (R8) Mastro (APHIS) Fussell (APHIS)</p> <p>Mee-Sook Kim (RMRS)</p> <p>Reardon (FHTET)</p>	<p>FHP APHIS</p> <p>IAT, RMRS</p> <p>FHP</p>
<b>MEXICO</b>	<p>Cooperate and provide assistance to CONAFOR on assessing pheromone preference and developing recommendations on pine management for <i>Pseudips mexicanus</i> and other species in southern Jalisco (EA1, EA3, EA4)</p> <p>Host Mexican cooperator visit to R4 to see bark beetle monitoring and trapping techniques (Francisco) (EA1, EA3)</p> <p>Serve as FS representative on NAPPO Forestry Panel and Plants for Planting Panel. Met in Puerto Vallarta to discuss implementation of new solid wood packing materials rules.</p> <p>Participate with Southern Research Station on a project involving a new species of bark beetle (<i>Dendroctonus</i>) and southern pine beetle and determine which species are responsible for initiating attack and killing pines in the region (Chiapas) (EA1, EA3)</p>	<p>Steed (R4) Willhite (R6)</p> <p>Steed (R4) Willhite (R6)</p> <p>Britton (WO)</p> <p>Clarke (R8)</p>	<p>FHP, IAT</p> <p>FHP, IAT</p> <p>FHP</p> <p>IAT, FHP</p>

<b>MEXICO (continued)</b>	Provide assistance, and in conjunction with CONAFOR and International Programs, in developing establishing at study for evaluating the impacts of <i>Arceuthobium vaginatum</i> subs. <i>vaginatum</i> on the commercially important <i>Pinus cooperi</i> using stem analysis to quantify growth losses to differing levels of infection of dwarf mistletoes. (EA1, EA3, EA4)	Howell (R2) Fairweather (R3) Kearns (R1)	IAT, FHP IP
	Presentation on “Insect and Disease Problems of Forest Plantation in the United States” at the 39 <sup>th</sup> North American Forestry Commission Insect and Disease Work Group meeting, Nuevo Vallarta, Mexico	Cram (R8)	FHP
	Participate in and serve as a member of the North American Forestry Commission Insect and Disease Work Group and attend meeting in Nuevo Vallarta, Mexico	Mangold (WO)	FHP
<b>NICARAGUA</b>	Continue to provide assistance to the Nicaraguan Forest Department in developing a risk management system for southern pine beetle (EA4)	Ward (R8)	FHP
	Provide assistance to the Nicaraguan Forest Department (INAFOR) and the Universidad Nacional Agraria in urban forestry	Ward (R8)	IAT
	Provide assistance to the Universidad Nacional Agraria in setting up a risk rating project for disasters in the San Fernando area. (EA3)	Ward (R8)	FHP, Univers. Nacional Agraria
	Provide assistance for cooperator Dr. Sediles to attend NAFIWC and give presentation	Ward, Douce (R8)	IAT, NAFIWC
<b>POLAND</b>	Serve as Program Chair for first meeting of new IUFRO group, Alien Pest Movement in International Trade.	Britton (WO)	FHP
<b>PORTUGAL</b>	Attend Oak Decline Symposium	Oak (R8)	FHP

<b>ROMANIA</b>	Attend IUFRO meeting on genetics and breeding of 5-needle pines and meet with cooperators in France, Spain and Germany (EA3)	Sneizko (R6)	IAT
<b>RUSSIA</b>	Participate in Exposition in Moscow and present poster on Russia/US Cooperative Gypsy Moth and Nun Moth trapping and inspection project (Oct 2004)	Munson (R4) Fussell (APHIS)	FHP, APHIS
	Continue cooperation with Russia Port Trapping Program for Asian gypsy moth, Nun moth – renew agreement and continue monitoring in 9 ports	Munson (R4) Leonard (R8) Mastro (APHIS) Fussell (APHIS)	APHIS, FHP
	Provide assistance for scientist from Sukachev Institute to attend Invasive Species Research Forum and present posters, and continue coordination on AGM, Siberian moth and other Russian exotic pests	Ragenovich (R6) Mastro (APHIS)	IAT
<b>SOUTH KOREA</b>	Conduct collections of white pine blister rust and <i>Armillaria</i> source material.	Mee-Sook Kim (RMRS)	IAT RMRS
	Participate in presentations on forest disturbance and restoration to 20 Korean Forest Service Representatives.	Daoust (R6)	FHP
<b>GENERAL</b>	Serve as President of the International Economist group and attend annual meeting in Beijing, China	Lewis (WO)	FHP
	Receive Chief's Award for International Activities for efforts in the Asian Gypsy Moth Port Trapping Programs in Russia and Japan.	Munson (R4)	FHP
	Attend North American Forest Insect Work Conference (Asheville, NC) and Western International Forest Disease Work Conference (Jackson, WY) (EA4)	Various Regions	FHP